Chapter 9

Algebra based

9.1 Polynomials and Rational Expressions

form

Polynomials

(multiple terms)

single term monomial	two terms binomial	three terms trinomial
7	$a+b$	ax^2+bx+c
$2x$	$3x^2-9x$	$2+7y+5^5$
$3ab^2c^5$	$4xyz+9x^2y^2$	

$A = 1000 \quad r \qquad 1+r = g$

1 $1000(1+r)$

2 $(1000g + 1000)g$

↳ $1000g^2 + 1000g$

3. $(1000g^2 + 1000g + 1000)g$

$1000g^3 + 1000g^2 + 1000g^1$

Polynomial rules

- degree (of polynomial)
  - highest exponent in polynomial
    $7x^7 + 4x^2 + 9x^5$ degree is 5
- order from highest exponent → lowest
  coefficients - number in front of variable
  constants - no variable

Exponents

↳ positive
no negative exponents

↳ whole number
no rational numbers

Terms

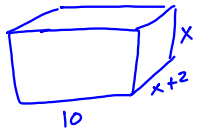
↳ No radical of rational variables
no $\sqrt{x}$, $x^{\frac{1}{2}}$

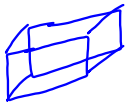
Rational Expressions/Equations

Expressions in fraction form

$\frac{1}{x}$, $\frac{x+3}{x-2}$

$\frac{2}{5} = \frac{x+3}{2x-2}$



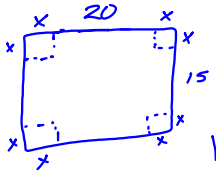


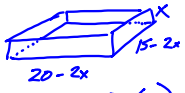
$V = l \cdot w \cdot h$

$V = 10(x+2)(x)$

$V = (10x+20)x$

$V = 10x^2 + 20x$





$V = (20-2x)(15-2x)(x)$

$V = (300 - 40x - 30x + 4x^2)(x)$

$V = 300x - 70x^2 + 4x^3$

$V = 4x^3 - 70x^2 + 300x$